TUCSON AMATEUR ASTRONOMY ASSOCIATION



Membership Meeting

TAAA's next general member meeting will be held on Friday, September 1, 2023. This will be a **hybrid meeting** (both in person and on social media). TAAA members will receive a Zoom link should they wish to attend remotely. The public may attend in person at the Steward Observatory Lecture Hall (Rm N210), 933 N Cherry Ave., Tucson or stream online at the TAAA Facebook page.

Main Presentation at 6:30PM AZT

Title: Civil Planetary Defense: The Catalina Sky Survey Needs Your Help Discovering New Asteroids

Presentation: The Catalina Sky Survey (CSS) has been in operation since the late 90's with the goal of discovering and tracking Near-Earth Asteroids (NEAs). Headquartered in Tucson, with its primary telescopes on Mt. Lemmon, CSS plays a major role in Earth's planetary defense. David Carson Fuls will present CSS's latest project, a new citizen science initiative called "The Daily Minor Planet" which gives volunteers the opportunity to review images taken by CSS survey telescopes to discover new asteroids! This project, much like CSS nighttime operations, focuses on rapid identification of new objects, so images are uploaded the day after they are taken. Carson will cover the project in detail and present its initial discoveries since its official launch in May, 2023. For more info., visit: https://www.zooniverse.org/ projects/fulsdavid/the-daily-minor-planet

Biography: David Carson Fuls is the Senior Operations Scientist/Engineer for the Catalina

September 1 @ 6:30 pm - 9:00 pm

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Sky Survey. A graduate of Stephen F. Austin State University (MS physics), he has been with CSS since 2015, and has discovered thousands of asteroids and eight comets that bear his name. The asteroid 1999 UN24 was named in his honor. When not searching for space rocks, Carson volunteers with the Southern Arizona Rescue Association, which performs search and rescue missions in the mountains and deserts of southern Arizona.



TAAA Desert Skies Bulletin David Rossetter - Editor Ken Bertschy - Graphics Terri Lappin & Jim Knoll - Proofreading Greg Ruppel -Image Editor

August

TAAA thoughts recently have focused on our loss of Dean Ketelsen. Dean made substantial contributions in a variety of ways both to TAAA and to astronomy in general. We all grew to love his laid-back, relaxed manner of approaching things and the truly nice person he was. I hope that each of you will take the time to read the article in this newsletter about Dean, perhaps look at his wonderful blog, and that many of you will be able to attend, observe, or in some way participate in the Memorial service. We appreciate the UA Mirror Lab having included TAAA in this effort.

Clouds, heat, and showers persist in Tucson but, just as in other climates, astronomy survives in Tucson, anyway. As I mentioned last month, I am currently placing some emphasis on TAAA communications and how we can communicate better and be more connected to our 788 TAAA members. In spite of our size, we very much want individual members to have comfortable, workable means of communication within TAAA. Let us know if you are having problems.

Last month, I included a list TAAA Board email addresses and those will continue to be included monthly in another part of this bulletin. That way, you can communicate with all or part of our TAAA Board any time you wish and get questions answered regarding governance of the organization. This month, I want to include a short list of some of the other TAAA contact information that is most requested by new TAAA members. Often these requests focus on learning astronomy or on helping to participate/ volunteer in sharing with others some basic information related to astronomy by participating in TAAA's star party or educational efforts. There are a number of areas of the Club that can be helpful to you, but I am only addressing here the few that I get the most questions about.

So, I will list the area of the club first and then a key leader and key email address to use if you are seeking information in that area. The list includes:

School/Non-profit Star Parties: contact Bernie Stinger at <u>astronomy-events@tucsonastronomy.</u> org. Volunteers for this activity review a monthly

by Mae Smith

list of school and non-profit sites and the location of those sites that have requested free star parties as well as the star party dates. If you wish to volunteer to bring your telescope and assist with a star party contact Bernie Stinger. If you are new to star parties and want to learn to how to participate in one, just let Bernie know that and he can help.

Starry Messengers Special Interest Group

(SMSIG). Contact Terri Lappin at smsig@ tucsonastronomy.org. This group conducts astronomy education activities/events with the public or schools on behalf of TAAA. If you know (or want to learn) some basic astronomy and wish to volunteer to assist with these educational activities, you are welcome to volunteer. The group organizes new activities for events like the Tucson Festival of Books each year. It also has access to some science kits designed for amateur astronomers to use at events or working with an instructional unit in a classroom with a teacher. Terri can let you know what kits are available and check out a science kit for you to use to respond to specific requests from teachers, events, or schools.

Astronomy Fundamentals Special Interest

Group (AFSIG). Contact Connor Justice at <u>fundamentals@tucsonastronomy.org</u>. This group conducts a monthly meeting for club members focusing on learning the basics of astronomy. They have videos of past presentations, as well. Contact Connor Justice for information on participating as a member of the group, for assistance with certain basic astronomy information, or to arrange to present to the group.

CAC (Chiricahua Astronomy Complex),

TAAA's Dark Sky Site in Cochise County, Arizona. Contact Jim Knoll <u>cac-director@tucsonastronomy.</u> org if you would like to observe or visit. Information and directions to the site are on the TAAA website at <u>tucsonastronomy.org</u>. However, the CAC site is not generally open to the public and members need to make arrangements to visit the site. Directions and a reservation form to visit the site can be accessed on the TAAA website. Dates that the site is open monthly for member events are also on the website. TAAA Loaner Scope Program. Contact <u>Ralph</u> Means to check out a loaner telescope from and learn about using it. TAAA has a variety of beginning telescopes that members can borrow and receive instructions on how to use. These scopes are located at the TIMPA Dark Sky site on the west side of Tucson. There are directions on the TAAA website, <u>tucsonastronomy.org</u>, that lead you to the site, but you should make an appointment for Ralph to meet you to check out a loaner scope. However, if you are really beginning you may need to plan some additional appointments for extra assistance in operating the telescope you check out. You can make arrangements to return to the TIMPA site and use the TIMPA site with your scope. TIMPA will resume having open member nights in the fall.

Some items included in the August Board meeting follow: TAAA members and leaders were asked to be aware of a sometimes-biased tendency to select the "usual suspects" when seeking specific volunteers for activities. These are people who have previously volunteered, and we know they do a good job, but, they get overloaded. Some TAAA leaders are now doing several TAAA jobs at the same time and some are reporting experiencing stress with those multiple responsibilities. They feel that it is hard to keep up with all the different responsibilities involved in multiple jobs. It is important that we all be sensitive to accepting responsibilities in a way that enables us with the time and energy to meet the total of those responsibilities. It is definitely preferable in selecting TAAA volunteers and leaders, that we refrain from the tendency to keep assigning more new tasks to someone who already has a full load of TAAA responsibilities. It is natural to do so because we are familiar with the good results they produce.

However, we need to reach out and look for new volunteers. If you are a candidate to be a new TAAA volunteer, help us find you!! TAAA members who have not been holding volunteer jobs in TAAA but would like to do so, should let myself, Board members, or leaders know that they are interested in volunteering. We have opportunities arising all the time. Also, currently, David Rossetter, a Board Member, has been serving in multiple jobs and is now looking for someone to assist him by taking over the leadership of the Technology Committee and of the Awards Committee. If those are interest areas for you, let David know.

I will mention some other items on the August Board agenda. TAAA regularly provides statements of insurance coverage to groups that we work with in running star parties. We were asked for the first time recently to also sign a "hold harmless" agreement for a group sponsoring a TAAA star party. Such agreements are common now and Ed Foley has been appointed to sign hold harmless agreements for TAAA star parties when any are requested in the future. The agreements will, of course, be placed in our permanent files by the Treasurer.

The Board scheduled an **open house at CAC for November 11, 2023**, and on that date a **bus for members** was approved to run from Tucson to CAC and back for the open house.

President: Mae Smith president@tucsonastronomy.org

Other Elected Leader Contact Information:

Vice-President: Ed Foley vice-president@tucsonastronomy.org

Secretary: Bob Reynolds secretary@tucsonastronomy.org

Treasurer: Barbara Whitehead treasurer@tucsonastronomy.org

BOD Members-At-Large: Suzanne Bailey, <u>mal1@tucsonastronomy.org</u> David Rossetter, <u>mal2@tucsonastronomy.org</u> John Kalas, <u>mal3@tucsonastronomoy.org</u>

TAAA Board address is: taaabod@tucsonastronomy.org

The TAAA Board of Directors meets the second Wednesday of every month at 6:30pm. Members are welcome to attend Board meetings. If you would like to attend, you may email <u>Mae Smith</u> to receive a Zoom link for that meeting. Please send your email to Mae the Monday prior to the meeting (By 5:00pm) and you will receive an email with the link on either Tuesday evening or Wednesday. ALL MEMBERS ARE WELCOME.

In Tribute

Dean Ketelsen



Dean A. Ketelsen, former President of the TAAA (1991-1995), died suddenly at his home in St. Charles, IL on Wednesday, August 9, 2023. He was 69 years old. Since the early 1980s, Dean had been an active member of the TAAA, contributing to it in many ways. In recent years, he split his time between Tucson and St Charles, IL. He regularly attended TAAA meetings across 40+ years, and made innumerable presentations where he showed many of his beautiful astrophotos.

Ad Astra

As a longtime senior optician at the Steward Observatory Mirror Lab, Dean hosted "newsletter folding parties" for the club every month at the Lab, before the newsletter became electronic. Other club members, such Liz & John Kalas, Ed & Ellen Finney, etc., frequently joined-in at these fun-filled events, intended to ready the newsletters for distribution at the next club meeting.

From 1990 (Courtesy of Roger Ceragioli) Dean also sponsored semi-annual TAAA "Star-b-ques" on Kitt Peak (where he had worked as a telescope tech on the 4-meter Mayall reflector, and later for many years as a docent at the visitor center). For these Star-b-ques, 30-40 club members would assemble at the picnic area below the telescope domes for a cookout in the late afternoon, and then set up their scopes for an evening of spectacular observing.

Originally from Iowa (where he grew up on a farm), Dean had a folksy charm and demeanor that always put people at their ease, despite his imposing height and physique. One felt safe observing in the field with Dean nearby. Before the development of the Chiricahua Astronomy Complex (CAC), the TAAA's main darksky site was at the Empire Ranch north of Sonoita. TAAA members frequently assembled there for a night's observing, and Dean would help all and sundry with telescope advice and his encyclopedic knowledge of the night sky and current celestial happenings. He could find all manner of deepsky objects in a flash, to assist other club members.

Not only was Dean a master visual observer, but even more he was a master photographer of nature and the night sky. After 2000, he kept a blog (<u>theketelsens.blogspot.com</u>) which contained a fabulous array of his images, and a log of his journeys in the South- and Midwest. Later he moved his blogging to Facebook. Many people from around the world followed the adventures of Dean Ketelsen, and so learned about Tucson and the TAAA.

With a BS in Astronomy & Physics from the University of Iowa, Dean was a co-author of many papers on the building of giant telescopes, done at the Mirror Lab. And he put his optical expertise to use for the TAAA, when the club hoped to build a 30" reflector – a project which (alas) was never finished.

Dean also founded the modern Grand Canyon Star Party in 1991, which he helped to run (together with the TAAA) for many years, and attended 32 times. He had hoped to continue long into the future.

Many, many people in Tucson, in Arizona, and latterly in the Chicago area treasured their time with Dean, who will be greatly missed by his friends and family. A Celebration of Life for him will be held at 1:30 pm on Sunday, the 1st of October 2023, at Steward Observatory (Room N210) on the U of A campus. Donations in his name may be made to the TAAA or to a no-kill animal shelter of your choice. Dean was a great lover of his kitties!

Roger Ceragioli

Dean's Online Obituary includes a tribute wall with thoughts from several TAAA members.

CAC OPEN HOUSE AND RIBBON CUTTING

Saturday November 11, 2023



Mark your calendars. There will be a *Chiricahua Astronomy Complex (CAC) Open House and Grand Opening* celebration for the completion of the *Foley INNstitute and Mooney Foundation Night Sky Learning Center*, the completion of new Member Observatories, the Open Sky Campground, the *Bill Lofquist Outdoor Learning Center*, The *Stinger Telescope Pad*, and lots more. The Open House will be **Saturday November 11, 2023** (Veterans Day) starting at 5 pm. Members can drive themselves or use the TAAA reserved Charter Bus for a nominal fee of \$15 (collected at the bus). The bus will depart from the TTT Truck Stop along I-10 to CAC at 2 pm, arriving about 4:30. Departing CAC about 7:30 pm and arriving back in Tucson at 10 pm. To attend the open house or make a reservation for the bus, please use the this <u>reservation link</u>. For any questions, please email the <u>CAC Director</u>.



Foley INNstitute and Mooney Night Sky Learning Center

Stinger Telescope Pad

Sleeping Room





The TAAA Astronomy Camp

Now that the Learning Center at our CAC site has been completed, the board has acted to reinstate our overnight high school programs. The TAAA Astronomy Camp committee has been formed with Ed Foley chair, Gary Wells, Mae Smith, Suzanne Bailey and TAAA school star party coordinator Bernie Stinger. The committee has met to discuss the issues such as curriculum, housing, equipment, schools to contact and our working with minors procedures. This committee will be meeting in the coming weeks with the TAAA veterans of the previous camps. Over the years, these veteran members hosted numerous groups of Southern Arizona students and even a student group from as far away as California. The committee will target first quarter 2024 for the educational programs to be in place once again.

Those who might be interested in volunteering to be a instructors, imaging support or other roles as part of the Astronomy Camp in 2024 should contact Ed Foley, the <u>Camp Chair</u>.

Practical Astronomy Workshop 1 – Star Hopping Open for Enrollment

Place: TIMPA Date/Time: Thursday, October 19, 2023, 5:45 PM until completed

Synopsis: This is the first workshop in the practical astronomy workshop series. It will teach Star Hopping. The students will be taught the proper star hopping technique and equipment usage. Each student will use the supplied equipment to locate at least 2 targets (maybe more if time permits). By the end of the workshop the student will know what equipment to use and how to use it in order to locate targets using star hopping.

If interested you can contact the instructor Douglas Smith Phone: 520-396-3233; E-mail: <u>alcor@tucsonastronomy.org</u>

PLEASE NOTE: due to equipment limitations there is a strict limit of 20 students for this workshop.

Upcoming Workshops Open for Pre-enrollment

Several workshops are being planned for the fall 2023/winter 2024 time frame.

- A Sketching/Logging workshop will be offered.
- A Constellation identification/locating workshop will be offered.

Dates/Times are still TBD. They will be announced in the bulletin as soon as they are set.

If you are interested in enrolling in any of these workshops or would like additional information contact the TAAA Astronomical League Correspondent (ALCOR) at the information listed below.

TAAA ALCOR – Douglas Smith; Phone: 520-396-3233; E-mail: alcor@tucsonastronomy.org

32 Inch Eye on the Galaxy Telescope Project

With the donation of the 32 inch Cassegrain professional research grade telescope donation safely in storage, the TAAA board commissioned a committee to begin work on construction and on fundraising for the project. The 32 inch observatory construction committee now includes Bob Reynolds, Bob Rose, Ed Foley, Tom Melscheimer and Doug Summers. A series of meetings were held to discuss current observatory design issues such as the requirements for a foundation and pier to support the 4100 pound instrument and consideration of future requirements for use of the telescope.

A meeting with TAAA members and astronomy industry experts was held to consider issues this large instrument has which may be generally unfamiliar to TAAA. Special aspects of safety, maintenance and operations of this large instrument were discussed. The comments of this advisory panel were also important to ensure possible uses for the telescope beyond our normal member requirements and its use in our outreach projects.

Visits to a number of TAAA members' larger roll-off observatories were made by the committee. Features of each of these observatories have been incorporated into the design ideas which were shared with a local architect. Drawings will be produced with the design elements TAAA will need to build at CAC, the TAAA eastern side dark site. -Ed Foley



Our 32 inch mirror being examined prior to shipping by Dr. Frank Melsheimer, principal of DFM Engineering, the manufacturer.

CAC Maintenance Weekend (August 18-19, 2023)

Thank you to all the members that helped complete several significant projects the weekend of August 18-19, 2023 at CAC. We installed carpet in the sleeping rooms, hung a couple TVs, installed remaining signage, installed security cameras, spread gravel in the Open Sky Campground, prepared for the RV expansion project, and lots more. A special thanks to: Jeff Buzek, Ross Carnes, Ed Foley, Ken Graun, Martin Hale, Joe Jakoby, John Kalas, Jim & Susan Knoll, Marc & Pam Elvy, Tom Rolfsmeyer, Bob Rose, Larry Stepp, Bernie Stinger, and Michael Turner. We still have a few more projects to complete before the November Open House along with plenty of on-going projects. We could not get this done without our very generous members and supporters, contributing not only funding that is critical to continued expansion, but the manpower necessary to get it all done. THANK YOU!!

Jim Knoll, CAC Director



Proposed Constitution & Bylaws Change

The Board of Directors (BOD) of the Tucson Amateur Astronomy Association approved a change to the club's Constitution & Bylaws (C&BL) at their July BOD meeting. The change will implement term limits for the President, Vice President, Treasurer and Secretary and is encompassed in the following paragraph to be added to Article III, Section 2 as follows:

Term Limits: Members of the Board of Directors may only serve in those positions for the limits as defined below:

- A member may only serve as President for a maximum period of 4 consecutive years. Further, following a break in service, a member can only serve for an additional consecutive 4 year period. In any event, a member can not serve as President for more than a total of 8 years.
- A member may only serve as Vice President for a maximum period of 4 consecutive years. Further, following a break in service, a member can only serve for an additional consecutive 4 year period. In any event, a member can not serve as Vice President for more than a total of 8 years.
- A member may only serve as Treasurer for no more than 8 years.
- A member may only serve as Secretary for no more than 8 years.
- There are no term limits for Member At Large positions. In addition, officers who have met term limits for other Board positions may serve as Members at Large.

The time served in one BOD position does not count against the term limit of any other BOD position. Thus a member may serve out the entire term limit in one position and then serve in a different position.

The preceding information will also be presented at the September 1, 2023 member meeting. The vote for member approval will be conducted online the week prior to the October member meeting, and will close during that same meeting (similar fashion as our most recent leadership election this past May).

The NVRC continues to seek another member to fill out its ranks and encourages members to consider standing for a special election. The NVRC conducts most of its business and activities online, so in-person presence is not required and not living full or part time in Tucson is of little to no consequence in aiding the important work of the NVRC. Please contact the committee at nvrcchair@tucsonastronomy.org with any questions or to express your interest in serving on the NVRC.

by Susan O'Connor

Ladies' Night Out is a social interest group for women members of the club. The group meets once a month at a restaurant for fellowship and conversation. This month's meeting is:

Thursday, September 21, 6:30pm

Chef Alísah's

5931 N Oracle (W side of Oracle S of Rudasill)

Preview the menu at: https://www.alisahrestaurant.com/Menu/Menu.pdf

RSVP <u>Susan</u> - 520-780-0136

Special Interests Groups



Starry Messengers Special Interest Group Opening Minds to the Universe

Are you excited about astronomy? Do you like to share your interest with others? You should learn about the TAAA Starry Messengers Group. Our first meeting of the academic year will be held on **Monday, September 11th at 7PM**. Attend this meeting if you're interested in doing astronomy outreach to the public. This will be a Zoom meeting. An email announcement with the Zoom link will be sent to all members closer to the date.

The Starry Messengers are TAAA members sharing astronomy with the public. There are several levels of involvement in the Starry Messengers – as an **Activity Guide**, as a member of our **Planning Team**, or in our **Library Telescope Program**.

The Library Telescope Program is supported through the generous donations of TAAA members and the Astronomical League. There are 11 telescopes in the program in Pima and Cochise County Libraries. We'll be adding two more this year. Help is needed with the maintenance of these telescopes. Jim Knoll leads this project. Let him know if you're interested in helping with this important community service provided by the TAAA. See https://tucsonastronomy.org/community-services/libaryscope-program/ for more information.

There is great need for Activity Guides. Our Activity Guides bring hands-on activities to schools and other locations, often coinciding with a TAAA star party. Currently, we don't have enough members participating at this level and are turning down about half of the activity requests we receive.

Our most popular activities are about the solar system, meteorites and asteroids, the sun, black holes, and the possibility of life in the universe. Each activity is designed for small groups and takes between 5 and 10 minutes to complete. As they are hands-on activities, we encourage the kids and adults to do the activity themselves. Through guided questions, they come to understand astronomical concepts. For example, participants put marbles in orbit around a gravity well to help them understand how gravity holds planets in orbit around a star, and the extreme example of a gravity well demonstrates black holes.



Activity demonstrating a gravity well surrounding a black hole.

There are several ways to learn how to use the activities including online videos and in-person. You'll be given time to practice on your own before being asked to bring an activity to an event. Ideally, we schedule two volunteers at each event, but lately that's been difficult with our small number of volunteers. Learn more about the activities: <u>https://nightsky.jpl.nasa.gov/download-list.cfm</u>

Those able to give more time to the Starry Messenger Group can be part of our Planning Team. The **Planning Team** decides which activities the TAAA will have at the Tucson Festival of Books Science City and at the Tucson Astronomy Festival. In recent years, we've been trying to get activities up to the Grand Canyon Star Party. Planning for these big community events takes time and a lot of preparation. Meetings of the Planning Team are often held in person so we can practice with the activities and fine tune them for different age groups and interest levels. Learn more about SMSIG activities at <u>https://tucsonastronomy.org/taaa-member-resources/</u> <u>special-interest-groups/starry-messenger-sig/</u>

If you have questions about the Starry Messengers SIG, contact <u>Terri Lappin</u> or call 520-977-1290.

Astronomy Fundamentals SIG

Come join us for a presentation from the fundamentals of amateur astronomy. Learn your way around the night sky to add to your observing enjoyment. Meetings are on the second Thursday of each month.

The next meeting is on **Thursday, September 14th at 6:30 pm - 8:00 pm**. Topics to be determined.

Contact Connor Justice for Zoom link and more information.

Access videos of previous meetings in the TAAA's YouTube Channel.

Astro-Imaging SIG

by Gregg Ruppel

The next AISIG meeting is Monday, September 18th @ 7:00 pm via ZOOM.

Topics: To be determined

Email <u>Gregg Ruppel</u> for the ZOOM link or any other information. Gregg and the AISIG folks are very active on the <u>TAAA groups.io</u> forum. Check out all the helpful advice and amazing images there. For more information or instructions on how to join the forum, check out the <u>TAAA</u> <u>Forum</u>. Look for previous AISIG meetings on the <u>TAAA YouTube Channel</u>.

Highlights from the Astro-Imaging SIG



Allen Force - M17 and M16; ASI294MC with NBZ filter, through the Samyang 135mm f2 lens. Everything piggy backed on the C11 with Hyperstar and ASI183MC as guider.

Randy Smith



Veil Nebula

I took the two good nights (before moon rise) to shoot a 4 panel with my Skywatcher 8" Newtonian with Starizona Nexus Reducer/Corrector (600 mm) and 2600 MC with Optolong L-Extreme filter 45x90 each panel. Processed in PixInsight except mosaic stitched with Microsoft Image Composite Editor (ICE).



Sh2-132 Lion Nebula

C11 Hyperstar 2600MC L-Extreme filter, 92 x 180sec.



Alex Woronow - Sh2-224; A faint planetary nebula hidden in a relatively dense star field. Thanks to "star removal/ replacement," some of the nebula's details and extent can be made visible.





M63; RC10" @f/8 / AP900GTOCP4 / asi2600mc / no filters / 3.7 hours exposure / 4-14, 4-18 2023.



Tom Eby

NGC 5846 with nearby NGC 5850

The well formed barred spiral NGC 5850 likely interacted with NGC 5846 around 200 million years ago, is about 11th magnitude.

RC10" truss @ f/8 / AP900GTOCP4 mount / asi2600mc / scale =0.38 as/px / 156 min total exposure / no filters / 6-13, 6-15 2023.

David Stearn - Cygnus Wall 114 120s, One Shot Color using a Narrowband Filter, HOO for a Hubble Pallet Look.



I used my 5.5" refractor on my 10 micron mount, with a ZWO ASI 2600mm camera. This is about 27.5 hrs of RGB data.

TIMPA

by TIMPA Planning Group

TIMPA (Tucson International Modelplex Park Association), dark sky site west of the Tucson Mountains.

TIMPA Star Party Dates this month: Monsoon Season - No dates set

Observing Sites

Location: The TIMPA observing site is located a few miles beyond the Desert Museum (3250 N. Reservation Road, Tucson, AZ 85743).

The TIMPA site is only partially improved. There are no inside buildings provided other than restrooms. TAAA provides very limited seating (members are welcome to bring folding chairs). Please note that members visiting the TIMPA site may encounter things commonly found in partially improved desert areas such as desert creatures and/or their remnants (such as gopher holes or ant hills), uneven terrain, weeds, and desert pollens. Members using the site are encouraged to bring red lights and to move cautiously taking appropriate safety measures. The site does not have potable water, so bring your own non-alcoholic drinks.

Member Reservations should be sent to <u>jmead@SIU.edu</u>. Make sure to clearly include your name and contact information and date and time you plan to be on site.

Chiricahua Astronomy Complex

by Jim Knoll

CAC Weekend Dates coming up (Friday/Saturday): September 15-16 (New Moon 14)

Chiricahua Astronomy Complex (CAC) is the club's dark sky observing site, located in Cochise County approximately 100 miles southeast of the center of Tucson. If you would like to attend, you must make a reservation on the CAC Web page at <u>CAC Reservations</u>.

The reservations page has been enhanced with cancellation links to facilitate easy cancellation if necessary. A SPECIAL THANKS to Conrad Stolarski, our CAC Reservations Manager. Conrad keeps the reservation process running smoothly, with helping members making reservations for rooms, RV spots, EV charging, observing pads and lots more!

Unless you are qualified to open and close the site, dates will be limited to those around the New Moon and are listed on the CAC web page. Hosted personnel are generally on site a few days



before and after these dates. Those qualified to open & close the site can use it anytime but still need to reserve through the CAC Reservations process.

CAC Director: Jim Knoll CAC on the Web Observing Sites Star Party Dates 2023 TIMPA CAC September 15-16 (New Moon 14) Nove

November 10-11 (New Moon 13). December 8-9 (New Moon 12).

October 13-14 (New Moon 14)

by Bernie Stinger

Thank you for volunteering your time and talents for our extremely important outreach mission. **Below is the list for September, 2023.** September is the start of our new 2023-24 star party season and we are beginning it with several public events as well as a few school events.

Please let me know via <u>email</u> if you are interested in volunteering for any of the events listed below. First come – first served. I will let you know in return if you are on it or that it was already filled. Some events go fast!. If you are new to Star Party outreach, let me know and we'll be sure to help you get started. It is important you sign up for star parties if you plan to attend, whether you bring a scope or help in other ways, so I can manage who from TAAA will be on-site and for you to be included in any reminder or weather emails.

The PUBLIC Astronomy Events are also listed on the TAAA (<u>tucsonastronomy.org</u>) and Night Sky Network (NSN) (<u>nightsky.jpl.nasa.gov</u>) calendars. Also, all PUBLIC star parties will be listed on the TAAA Facebook events page and will be updated based on weather, etc. in real-time. You can follow any of those events and get a notification when I update the event. Again, this is only for PUBLIC star parties listed on Facebook.

The requests have been updated as of August 24rd. *Stared events and bolded telescope references still have need for volunteers. If you can help out please contact me at: <u>astronomy-events@tucsonastronomy.org</u>

<mark>Saturday – September 9 – NORTHEAST TUCSON</mark> Agua Caliente Park

Agua Caliente Park is located at 12325 E Roger Rd. Age Group: All Ages; # Participants: 75 – 100 Filled – 0 Scopes needed <u>Setup Time:</u> 7:00 pm Start: 7:30 pm End: 9:30 pm

Nearest Moon Phase: 3rd Quarter

Directions: Tanque Verde Road east past Houghton to Soldier

Trail. Go about two miles north to Roger Rd. Turn east for about 1/2 mile to the Park on the left (north).

<u>Viewing Location</u>: Parking Lot Bus Lane area (north end of parking lot). Position cars in front to block incoming headlights.

*Friday – September 15 – NORTHWEST TUCSON

(Cortaro area); Sanctuary Cove/All Creeds Brotherhood 8001 North Scenic Drive

Age/Grade Level: Adults/families; # Participants: 30
2 Scopes Needed

Setup Time: 6:30 pm Start: 7:00 pm End: 9:30 pm. Nearest Moon Phase: New

Directions: South of Pima Farms Rd. on N. Scenic Dr. (Detailed directions on reminder email).

<u>Viewing Location</u>: amphitheater at the top of the hill where there is a concrete slab.

Thursday – September 21 – NORTHEAST TUCSON Gregory School

3231 N. Craycroft Road

Age/Grade Level: 6 Grade; # Participants: 55 Filled – 0 Scopes needed

<u>Setup Time:</u> 6:30 pm Start: 7:00 pm End: 9:00 pm. Nearest Moon Phase: 1st Quarter

<u>Directions</u>: Approx. ½ mile South of River Rd on Craycroft Rd. (Detailed directions on reminder email).

<u>Viewing Location</u>: A large grass field on the Upper School side of campus

Friday – September 22 –- EAST TUCSON Saguaro National Park EAST

Saguaro EAST is located at 3693 S Old Spanish Trail. Age Group: All Ages; # Participants: 75 - 100 Filled – 0 Scopes needed Setup Time: 6:30 pm Start: 7:00 pm End: 9:00 pm Nearest Moon Phase: 1st Quarter

<u>Directions:</u> I-10 Exit 275. North on Houghton for ~8 miles to Escalante. East on Escalante for 2 miles to Old Spanish Trail. N on Old Spanish for .3 miles to Park

entrance. ALTERNATE: Houghton/22nd St. south on Houghton to Old Spanish Trail. East (left) on Old Spanish Trail 2.8 miles to Park entrance.

<u>Viewing Location</u>: Admin/HR parking area. After entering park, make first right and proceed to end at the HR/Admin area parking lot.

Saturday – September 23 — ORACLE AZ

Oracle State Park

3820 E Wildlife Dr, Oracle AZ Age/Grade Level: All Ages; # Participants: 200 Filled – 0 Scopes needed

(*Lunar Discover night theme. Try to concentrate on the Moon)

Setup Time: 6 – 6:30 pm Start: 7:00 pm End: 9:00 pm. Nearest Moon Phase: 1st Quarter

<u>Directions</u>: Highway 77 (Oracle Road) north from Tucson. Follow signs to Oracle State Park. Tell gate attendant you are an astronomer for the event.

<u>Viewing Location</u>: Sidewalk along the Kannally Ranch House parking lot and on the Ranch House upper patio. Some manual movement of equipment may be required to access. Bring cart if you have one.

*Thursday – September 28 - – Mt. Lemmon

<mark>Ventana Vista Elementary</mark>

E Organization Ridge Rd - Whispering Pines Girl Scout Camp, Mt. Lemmon

Age/Grade Level: 5th Grade; # Participants: 100 There will be four groups of 50 @ ½ hour each.

3 Scopes Needed

Setup Time: 6:30 pm Start: 7:00 pm End: 9:00 pm. Nearest Moon Phase: Full

Directions: Take a left before the Palisades Ranger Station just after Mile Marker 20 on the Mt. Lemmon Highway, then continue 1 mile down the dirt road of Organization Ridge Road. At the end of the road is the Whispering Pines Girl Scout Camp.

<u>Viewing Location</u>: Parking lot at end of road at Whispering Pines. Note: there is limited visibility due to trees but crisp visibility from altitude.

by Doug Smith What's Up list for September 2023 – October 2023

Fellow amateur astronomers. Many of the Astronomical League observing programs can be done from our backyards. The following is a list of objects visible during September and October for the more common observing programs.

Constellation Hunter Program – Northern Sky

The following constellations are well placed for observing for September and October: Aquarius, Aquila, Cepheus, Cygnus, Delphinus, Equuleus, Lacerta, Lyra, Pegasus, Sagitta, Vulpecula

Messier Observing Program

The following Messier Objects are well placed for observation during September and October (listed in ascending RA): M56, M55, M71, M27, M75, M29, M72, M73, M15, M2, M39, M30

Lunar and Binocular Observing Program

The following is a list of the dates for the lunar phase when observations should be made during September and October:

New Moon: September 15, October 15 40 Hours waxing: September 17, October 17 72 hours waxing: September 18, October 18 4 days old: September 19, October 19 7 days old: September 22, October 22 10 days old: September 25, October 25 Full (14 days old): September 29, October 29 Gibbous: September 6, October 6 72 hours waning: September 12, October 12 40 hours waning: September 13, October 13

Solar System Observing Program

The following list describes the various solar system objects and their visibility during September and October: **Mercury** is an early morning object during September and first 3 weeks of October. Mercury is at greatest elongation on September 22. Its at its brightest on September 27.

Venus is an morning object during September and most of October. It reaches its greatest brightness on September 19 and reaches greatest elongation on October 23.

Mars is now setting in the evening twilight. It will reappear in the morning sky in December.

Jupiter is well placed for late evening viewing during September and October. It rises around 9:30 in early September and around 5 PM by the end of October. It reaches opposition on November 2, transiting at midnight.

Saturn is well up at sunset during September and October. It transits around 11:30 PM on September 1 and around 7:30 PM on October 31.

Uranus is a late evening object during September and October. It rises about 15 minutes after Jupiter. **Neptune** is well placed for observation during September and October. It is well up by sunset. It transits around 1:30 AM on September 1 and around 9 PM on October 31.

ALERT! ALERT: An annular eclipse occurs on October 14. It will be visible as a partial eclipse from Tucson.

Urban Observing Program

The following deep sky objects are well placed for observing during September and October: Cr 399, NGC 6818, NGC 6826, M27, NGC 6910, NGC 6934, NGC 6940, NGC 7009, M15, M2, M39, NGC 7160

The following **Double Stars** are well placed for September and October: Beta Cygnus, Gamma Delphinus



LPL Evening Lecture Series

September 13, 2023Dr. Tom ZegaKuiper Space Sciences, Room 308 and ZoomRelics of a Time Long Past: Deciphering the Origins of Our Planetary System Through Analysis of Returned
Samples

October 18, 2023Dr. Veronica BrayKuiper Space Sciences, Room 308 and ZoomThe What If?Real-time Effects of a Bennu-Sized Asteroid Impact on Tucson





The Vatican Observatory Foundation is celebrating the 30th Anniversary of the "first light" of the Vatican Advanced Technology Telescope in Tucson, AZ Sept. 29th to Oct. 2nd. Events include an anniversary dinner on Sept. 29th, a tour to the telescope on Sept. 30, and a tour of the Richard A. Caris Mirror Lab at the University of Arizona on Oct. 2nd. For more information and to RSVP, visit <u>vaticanobservatory.org/vatt30</u>



DEPARTMENT OF ASTRONOMY AND STEWARD OBSERVATORY

Public Evening Lecture Series Fall 2023

We are thrilled to celebrate over 100 years of presenting lectures on astronomy & telescope viewing to the public. Public Evening Lectures will **begin at 7:30 p.m. in Steward Observatory Room N210.** All of the lectures and the use of the telescope are free of charge and open to the general public. For more information, contact Dr. Thomas Fleming at 621-5049 or <u>taf@arizona.edu</u> or check out the <u>Web Page</u>.

Sep 18	Dr. Tod Lauer National Optical/IR Lab	How Dark is Space?
Oct 2	Vatican Observatory Panel	30th Anniversary of the Vatican Advanced Technology Telescope
Oct 9, Oct 23, Nov 8		TBA
Nov 13	Dr. Tim Hunter Maj. James McGaha, M.S. Grasslands Observatory	<i>E. E. Barnard and Dark Nebulae: Then and Now</i> book-signing after the lecture
Dec 4	Dr. Kevin Wagner Steward Observatory	TBA

Skyward

By Dr. David H. Levy September 2023

Meteors scratch the sky

Despite what you read online, it is possible to think of meteor watching as one of the most boring things you can do with the night sky. No cosmic connection, no postulating about the origins of the Universe, no understanding of what dark matter might entail. When we look for meteors, we are in our own celestial backyard. We usually do not even use a telescope or binoculars; it's just sitting on a comfortable lawn chair and looking up at the sky. Even if we spot a shooting star as bright as the brightest of stars, it is only a large speck of dust that is probably only a few dozen miles above our lawn chair.

So why bother with watching meteors at all? Actually, it is because they are so close, so local, that makes this activity unique. A meteor may be a large speck of cosmic dust, but it strikes the Earth's upper atmosphere at a velocity of 40 miles per second. And that is precisely what I saw, 44 times, on the beautiful night of August 12, 2023.

That night began with the usual thickness of clouds, typical of the Arizona summer monsoon. But the clouds rapidly dissipated. Instead of clouds, stars began to appear. Well before midnight, I was out with Eureka, my 12-inch diameter telescope with which I would complete 2 hours of comet hunting before the night ended. One hour before midnight, another before dawn. In between, I counted my 44 meteors, one of which is in the accompanying picture.

The Perseids of 2023 were a very good meteor shower, but not the best. In November of 2001, Wendee and I were in the Australian outback during the peak of that year's Leonid meteor shower. We gathered on the shore of a dry lake bed and watched carefully as Leo the lion reared its handsome head above the eastern horizon. Then silently and swiftly, a bright shooting star appeared in the east, made its way across the sky, then slowly vanished in the west. One watcher said it all: "This trip was worth it!" A few minutes later, a second meteor did almost the same thing. After that the meteors came thicker and more often until, at around three in the morning, they suddenly began pouring out the sky at the rate of about one meteor per second. One observer even saw a meteor after the Sun rose.

What caused this burst of shooting stars? It appears that they originate from a comet. In December 1865 and January 1866, that comet was discovered by the German Wilhelm Tempel and Horace Tuttle of the United States. Because its orbit was identical to the orbits of the meteors, it was subsequently identified as the "parent comet" of the Leonid meteor stream. Moreover, because the comet passes close to Earth every 33 years, it was connected to the great meteor "storms" of 1833 and 1866.

In a similar way, Comet Swift-Tuttle, discovered in 1862 by the Americans Louis Swift and Horace Tuttle, was determined to be the parent comet of the Perseid meteors. As I watched them that unforgettable night, I was struck by the awe these tiny specks can generate as they race through our atmosphere. I was struck also by the wonder they generated in my mind: these always welcome visitors from space invariably enchant my soul.

A final note: One night in 1833, when Abraham Lincoln was a young lawyer, a deacon friend pounded on his door and woke him. "Arise, Abraham," he yelled. "The day of judgment has come." Lincoln leapt out of bed and strode to a window, and he saw countless shooting stars." Shortly after he became president, when several states left the union, Lincoln told this meteor story to some visitors. As he watched the falling stars in wonder, he also saw that the familiar constellations were still there in the sky. "The world did not come to an end then," he said wisely. "Nor will the Union now."

A fellow citizen who lived at the same time as Lincoln, and who likely admired and respected him, was Carl Schurz, who would be elected to the U.S. Senate a decade later. On April 18, 1859, on the eve of the American Civil War, he gave a lecture in Boston's Faneuil Hall. He said: "Ideals are like stars; you will not succeed in touching them with your hands. But like the seafaring man on the desert of waters, you choose them as your guides, and following them, you will reach your destiny."



A bright meteor appeared near Jupiter, just before dawn.



Dr. David Levy is a long-time member and former President of the TAAA. He is a well know astronomy writer and discoverer of comets. He writes this monthly "Skyward" column for the Vail Voice and generously allows us to publish it here.

 TAAA Astronomy Equipment For Sale

 TAAA has an assortment of astronomy related equipment for sale at this time. This equipment is available for
 members only at this time. The following list is just a sample of what is available.



Celestron tripod This is a standard Celestron tripod. Looks like it's for an 8 or 11 inch scope. In the image it is just the tripod, not the two black bags. **TAAA Member Price: \$185**



6 Inch Newtonian Optical Tube Assembly; 6 inch f 8.0 primary mirror. Comes with an 8x50 finder. **TAAA Member Price: \$100**

8 Inch Dobsonian

Homemade 8 inch Newtonian reflector in a dobsonian mount. Comes with a red dot finder. **TAAA Member Price: \$175**





Beyers Drive Gear Set Large unused Beyers drive gear with matching worm gear and stepper motor. The main drive gear is 14.5 inches in diameter and has a 47/8 diameter central hole. Motor has been tested and works fine. Note worm gear and motor not shown.

TAAA Member Price: \$900

Note that these prices are exclusive for TAAA members and after 45 days these items will be offered to the general public at a higher price. We also have an assortment of other items available at this time including: Finder rings, focusers, telescope rings of various sizes, mirror blanks of many sizes, a 6 inch Newtonian mirror set mounted in cells, several large mirrors and more.

To make inquiries about what is available or to express a desire to purchase one of items please contact: Douglas Smith; 520-396-3233

TAAA Equipment Loaner Program

The following inventory represents the current list of instruments contained in the Tucson Amateur Astronomy Association Equipment Loan Program as of September 04, 2022. A photograph of each item is included with the description. This equipment is for TAAA members to checkout and use. Email <u>Ralph Means</u> for information or to schedule time for pick up.



Celestron 11" CPC series Alt-Az fork mounted, with tripod and GOTO. We have 2 of these telescopes.



Orion SkyQuest 10" Dob with Telrad and 8x50 finder and 8x50 finder.



Orion SkyWatcher 12" Collapsible Dobsonian with 8x50 finder



Orion SkyWatcher 10" Dobsonian with Telrad



Meade LX200 10" SCT, Fork Mount, GOTO, with 8x50 finder, in case. With tripod. Training required for this telescope.

NOTE from the Equipment Loan Coordinator:

I am looking for eyepieces for the loaner program. We do not have enough for an eyepiece kit for each telescope. If you have any sitting around that you are not using. Would you consider making a donation to the Club and the loaner program.

Thank you, <u>Ralph Means</u>

TAAA Equipment Loaner Program (Continued)



Orion 10" Dobsonian black tube8x50 finder25



Celestron 6" SCT, single fork mount, GOTO



Meade 4" SCT in case, with tripod, battery pack, diagonal, and 2 eyepieces



Orion SkyQuest XT-10 classic 10" Dobsonian, f 5.0, 1.25 focuser, 8x50 finder, push-to.



Celestron Nexstar 6" SCT, diagonal, and eyepiece



Stellar Vue 85mm Refractor



Celestron 8" SCT, Single Fork mount, GOTO

TAAA Equipment Loaner Program (Continued)



Eyepiece Case #1: Black Orion Case 5 1.25-inch Celestron Multi Coated X-Cell LX eyepieces: 25mm, 18mm, 12mm, 9mm, 7mm focal lengths. 6x30 finder and diagonal.



Eyepiece case No. 2 Black Orion Case contains a 2" Hyperion-Aspheric 72-degree 36mm and 1.25" Hyperion eyepieces:8mm, 13mm, 17mm, 21mm, and 24mm.



Eye Piece Case #3 1.25" AstroTech Paradigm in 8mm, 12mm, 15mm, and 25mm



Eyepiece Case #4: Black Case. 5 Celestron X-Cell 1.35" eyepieces. Focal Lengths: 25mm, 18mm, 12mm, 9mm, 7mm



Eyepiece Case #6. Small Silver case8 Meade Super Plossl 1.25" eyepieces. Focal Length: 40mm, 32mm, 26mm, 20mm, 15mm, 12mm, 9.7mm, 6.4mm, 12mm Illuminated reticle, 1.25" eyepiece1.25" diagnol.



Case #7 Silver Case. Misc. A couple of eyepieces and numerous filters. Will get this sorted and inventoried shortly.



Eyepiece Case #5: Black case, Eyepieces: : 2" Celestron E-Lux 40mm, Meade 2" QX 26mm, 1.25" VLW 13mm, VLW 17mm, Orion 9mm Plossl, Orion 6mm Kellner, Unknown 32mm, Unknown 25mm, Ortho, 20mm Kellner 20mm, Unknown crosshair, 1.25", Kellner .965", Other: 2" Extension Tube, 1.25" extension tube, 2" Nebula filter, 3x Barlow, 1.25" Orion diagonal dielectric mirror.